

IN THE CLAIMS

Per the revised amendment practice, a complete listing of all claims in the application follows.

1. (Original) A substrate assembly, comprising:
 - a support surface; and
 - a plurality of high-K dielectric layers over said support surface, wherein a common metal is present in at least two adjacent layers of said plurality.
2. (Original) The substrate assembly in claim 1, wherein said plurality of high-K dielectric layers comprises a first high-K dielectric layer contacting said support surface.
3. (Original) The substrate assembly in claim 1, further comprising a barrier layer between said support surface and said plurality of high-K dielectric layers.
4. (Original) The substrate assembly in claim 1, wherein said support surface is a capacitor electrode.
5. (Original) The substrate assembly in claim 1, wherein said plurality of high-K dielectric layers defines a thickness of at most 200 Angstroms.
6. (Original) The substrate assembly in claim 5, wherein said plurality of high-K dielectric layers comprises a first high-K dielectric layer contacting said support surface and defining a thickness of at least a monolayer.
7. (Original) The substrate assembly in claim 6, wherein said first high-K dielectric layer defines a thickness of at least 10 Angstroms.
8. (Original) A capacitor dielectric, comprising:
 - a first high-K capacitor dielectric comprising a metallic element; and
 - a second high-K capacitor dielectric comprising said metallic element and

contacting said first high-K capacitor dielectric.

9. (Original) The capacitor dielectric in claim 8, wherein said first high-K capacitor dielectric defines a first thickness; and wherein said second high-K capacitor dielectric defines a second thickness that is different from said first thickness.

10. (Original) The capacitor dielectric in claim 8, wherein said first high-K capacitor dielectric and said second high-K capacitor dielectric are oxides.

11. (Original) The capacitor dielectric in claim 10, wherein said first high-K capacitor dielectric is a first oxide; and wherein said second high-K capacitor dielectric is a second oxide different from said first oxide.

12. (Original) The capacitor dielectric in claim 10, wherein said first high-K capacitor dielectric contains a first amount of oxygen; and wherein said second high-K capacitor dielectric contains a second amount of oxygen different from said first amount.

13. (Original) A capacitor structure, comprising:

- a first electrode layer;

- a dielectric layer disposed over said first electrode layer, wherein said dielectric layer comprises a plurality of consecutively-positioned sub-layers, wherein each of said sub-layers comprises a high-dielectric-constant material, and wherein said dielectric layer comprises oxygen and an additional element common to all sub-layers of said plurality; and

- a second electrode layer disposed over said dielectric layer.

Claims 14-51 (cancelled).

52. (Original) A capacitor dielectric, comprising a plurality of capacitor dielectric layers defining a total thickness ranging from 50 to 70 angstroms, wherein each layer of said plurality is a high-K dielectric defining an individual thickness ranging from 10 to 40 angstroms in

thickness, and wherein each layer of said plurality comprises a metal oxide included within an adjacent layer of said plurality.

53. (Original) The capacitor dielectric of claim 52, wherein at least a lowest layer of said plurality defines an individual thickness of about 20 angstroms.

Claims 54-58 (Cancelled).

59. (Original) A metal-insulator-silicon device, comprising:

- a top metal electrode;

- a top Ta₂O₅ layer under said top metal electrode;

- a bottom Ta₂O₅ layer under said top Ta₂O₅ layer and contacting said top Ta₂O₅ layer;

- a silicon nitride layer under said bottom Ta₂O₅ layer; and

- a bottom silicon electrode under said silicon nitride layer.